

REMARKS

Claims 72-198 have been cancelled. Claims 199-210 have been added. No new matter has been added. The Office Action is discussed below.

CLAIM REJECTIONS UNDER 35 USC 112, 102 AND 103

PARAGRAPHS 2-10 OF OFFICE ACTION

In view of the cancellation of claims 72-198, the claim objections under 35 USC 112 (paragraph 2 of Office Action), 35 USC 102 (paragraphs 3, 4, 5, 6, 7 of the Office action), 35 USC 103 (paragraphs 8, 9 and 10 of the Office Action) have been overcome and applicant requests they be removed.

ANALYSIS OF NEW CLAIMS 199-210 WITH REGARD TO CITED

REFERENCES

Gonzalez (US 5,854,102)

Gonzalez (Fig. 8) discloses a memory element that includes plug 38 of polysilicon. Gonzalez fails to teach or suggest a cup-shaped electrical contact or a cup-shaped conductive layer as claimed by applicant in claims 199 and 203.

Doan (US 6,423,621)

Doan (Fig. 14) is directed to a method of forming a memory element wherein the lower electrode includes a tip (114) protruding toward the memory material. However, Doan fails to teach or suggest a cup-shaped electrical contact or

a cup-shaped conductive layer as claimed by applicant in claims 199 and 203.

Ovshinsky (US 5,687,112)

Ovshinsky '112 (Figs. 1 and 2) is directed to an electrical contact that tapers to a peak adjacent to a memory material. Ovshinsky '112 also fails to teach or suggest a cup-shaped electrical contact or a cup-shaped conductive layer as claimed by applicant in claims 199 and 203.

Ovshinsky (5,414,271)

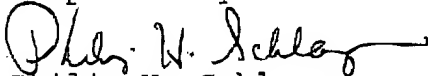
Ovshinsky '271 (Fig. 1) shows a cup-shaped conductive layer 32,34 having an open end facing away from substrate 16. However, Ovshinsky fails to teach or suggest the limitation "a dielectric material formed over the interior surface of said contact" as recited in independent claim 199 and the limitation "a dielectric material formed over the interior surface of said conductive layer" as recited in claims 203. In contrast, Ovshinsky '271 teaches a memory material 36 of chalcogenide deposited over the interior surface of cup-shaped structure formed by layer 32,24 (see column 16, line 42).

In view of the above remarks, each of the references Gonzalez, Doan, Ovshinsky '112 and Ovshinsky '271, either alone or in combination, fails to teach or suggest the limitations of applicant's new independent claims 199 or 203. Claims 200-202 depend from claim 199 and claims 204-210 depend from claim 203. Hence, the cited references fail to teach or suggest all of the limitations of any of the dependent claims.

SUMMARY

Claims 72-198 have been cancelled. New claims 199-210 have been added. Applicant respectfully requests reconsideration, withdrawal of the outstanding rejections, and notifications of allowance. Should the Examiner have any questions or suggestions regarding the prosecution of this application, he is asked to contact applicant's representative at the telephone number listed below.

Respectfully submitted,


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